



Read This First SPARCserver Manager

The Sun logo, Sun Microsystems, Sun Workstation, NFS, and TOPS are registered trademarks of Sun Microsystems, Inc.

Sun, Sun-2, Sun-3, Sun-4, Sun386i, SPARCstation, SPARCserver, NeWS, NSE, OpenWindows, SPARC, SunInstall, SunLink, SunNet, SunOS, SunPro, and SunView are trademarks of Sun Microsystems, Inc.

UNIX is a registered trademark of AT&T; OPEN LOOK is a trademark of AT&T.

All other products or services mentioned in this document are identified by the trademarks or service marks of their respective companies or organizations, and Sun Microsystems, Inc. disclaims any responsibility for specifying which marks are owned by which companies or organizations.

Copyright © 1989 Sun Microsystems, Inc. — Printed in U.S.A.

All rights reserved. No part of this work covered by copyright hereon may be reproduced in any form or by any means — graphic, electronic, or mechanical — including photocopying, recording, taping, or storage in an information retrieval system, without the prior written permission of the copyright owner.

Restricted rights legend: use, duplication, or disclosure by the U.S. government is subject to restrictions set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 52.227-7013 and in similar clauses in the FAR and NASA FAR Supplement.

The Sun Graphical User Interface was developed by Sun Microsystems, Inc. for its users and licensees. Sun acknowledges the pioneering efforts of Xerox in researching and developing the concept of visual or graphical user interfaces for the computer industry. Sun holds a non-exclusive license from Xerox to the Xerox Graphical User Interface, which license also covers Sun's licensees.

This product is protected by one or more of the following U.S. patents: 4,777,485 4,688,190 4,527,232 4,745,407 4,679,014 4,435,792 4,719,569 4,550,368 in addition to foreign patents and applications pending.

Read This First

READ THIS FIRST SPARCserver Manager

1. Getting Help

Before calling for help be sure you have read the *SPARCserver Manager User Guide* (Part Number 800-3838). Note especially the following three chapters:

- Chapter 2, "Getting Started," which includes installation instructions and explains how to build a MetaDisk Driver kernel.
- Chapter 3, "MetaDisk Driver Basics," which includes a subsection entitled "Error Conditions" in the section called "Activating Metapartitions with metainit."
- Chapter 4, "MetaDisk Driver Tutorial," which includes a section called "Cautions and Admonitions" that warns you about things you should do and not do when using the MetaDisk Driver. This chapter also includes descriptions of many MetaDisk Driver procedures.

If you have problems installing or using SPARCserver Manager, call Sun Microsystems with the information outlined below. In the United States call 1-800-USA-4-SUN; outside the U.S., contact your local Sun Answer Center, or your Sun sales representative for assistance.

You will need the following information:

- Your name and electronic mail address (if any)
- Your company name, address, and phone number
- The model and serial number of your workstation
- The release number of your Sun software (4.1, for example). You can check the release number by displaying the contents of the "message-of-the-day" file (`/etc/motd`), as follows:

```
cat /etc/motd
SunOS Release 4.1 (GENERIC) #2: Mon Nov 16 16:24:32 PST 1989
```

- Any information that may help to diagnose the problem.

If you prefer, you can direct questions by electronic mail to `sun!hotline`. Be sure to include the same information as above.

Call your sales representative if you have questions about Sun support services or your shipment.

2. Known Problems

The following problems are known to occur with SPARCserver Manager. If the problem occurs for all three IOadmin tools (dmt, fsm, and pmt), the description is headed "IOadmin"; if only one or two tools are affected, the three letter acronym for the tool is listed. If the problem is with the MetaDisk Driver, the heading is "MetaDisk Driver."

IOadmin — Cannot create connection to host: If you see the message "Could not create connection to rpc.ioadmd on *servername*" and you think the IOadmin daemon (rpc.ioadmd) is running on the server, the server may be over-loaded.

To see if the IOadmin daemon is running, you could rlogin to the machine, run `ps aux` and `grep` for `rpc.ioadmd`. Or you could run `rpcinfo`, substituting the name of the server you are trying to connect to for *servername* in the example (100055 is the rpc number for the IOadmin daemon):

```
% rpcinfo -p servername | grep 100055
```

If the IOadmin daemon is running, the response to the `rpcinfo` command will be something like the following:

```
100055    2    udp    725    ioadmd
100055    2    tcp    727    ioadmd
```

Note that "ioadmd" will not be displayed unless you have edited `/etc/rpc` on the server or have updated the NIS `rpc.bynumber` map, as explained in the next entry below.

If the daemon is running and the problem is caused by system loading, be patient; when the system load is alleviated, the IOadmin tool will succeed in establishing the connection when the tool does its next update. You can try forcing the update if you wish.

IOadmin — Making the IOadmin daemon name available to rpcinfo: The name of the IOadmin rpc daemon (ioadmd) will not be displayed when `rpcinfo` is run, unless you have edited `/etc/rpc` on the server, or you have updated the `rpc.bynumber` map — if you are running under NIS.

Workaround for non-NIS systems: Edit `/etc/rpc` on the server, adding a line for the IOadmin daemon, in the following form; the rpc number for the IOadmin daemon is 100055.

```
ioadmd 100055  rpc.ioadmd
```

Workaround for NIS systems: Edit the `/etc/rpc` file on the NIS master server, adding `ioadmd` as shown above. Then update the `rpc.bynumber` map on the NIS master server:

```
# cd /var/yp
# make rpc.bynumber
```

Once you have edited `/etc/rpc` on the server or updated the NIS `rpc.bynumber` map, you can see if the IOadmin daemon is running by issuing the following command, substituting the name of the machine being checked for *servername*:

```
% /usr/etc/rpcinfo -p servername | grep ioadmd
```


DMT or FSM — Disabled CD-ROM or tape drive: under some circumstances a tape may rewind when queried by `fsm` or `dmt`. Similarly, a CD-ROM in audio mode may eject.

Workaround: Include the device name in the file `loadmd.conf`, as explained in Section 5.5 of the *SPARCserver Manager User Guide*. After adding the device name to `loadmd.conf`, kill `rpc.loadmd` and start it up again.

DMT or FSM — Non-readable disk in floppy drive: If there is a non-readable disk in the floppy drive, the `rpc` daemon, `rpc.loadmd`, will time out, thus causing FSM and DMT to fail. A “non-readable disk” is an MS-DOS disk or a non-high-density floppy disk.

Workaround: Add “fd” to the file, `loadmd.conf`, as explained in Section 5.5 of the *SPARCserver Manager User Guide*. After adding “fd,” kill `rpc.loadmd` and start it up again.

DMT — Extra controller shown for IPI disks: Systems with IPI disks will display what appears to be an extra controller for each actual controller on the system. The first icon (`isc0`, `isc1`, `isc2`, or `isc3`) represents a *channel* controller; no disks will be attached to it. The second icon (`idc0`, `idc1`, `idc2`, or `idc3`) represents the *disk* controller; disks will be shown hanging off of this controller.

DMT — Missing tape icon: If you are running SunOS 4.0.3 with Xylogics tape drives, the icon for a tape drive will disappear from the `dmt` display when a System Map update occurs while a tape is in the Xylogics drive.

DMT — Kernel panics not logged: A kernel panic that causes the system to crash will not be logged by `dmt`.

FSM — Popup window resizing: If popup windows in `fsm` are resized smaller than the contents of the window, the contents will not be repainted properly if the window is stretched back to its original size (or larger).

Workaround: Dismiss the popup window and reselect the item.

FSM — Metapartition display may be incorrect: If there are inconsistencies between what is in `/etc/metatab` and the actual status of metapartitions, the display of metamirrors and metapartitions in `fsm` will be incorrect. If the `metatab` file has been edited but `metainit` has not been run, for instance, or if a metapartition has been detached from a metamirror, `fsm` will not display the current status.

DMT and PMT — Limit on number of drives available: For SunOS 4.0.3 systems, no more than four drives are available for display of Statistics (`dmt`) or Disk Transfers (`pmt`); for SunOS 4.1 systems, the limit is 10 drives. Note that you may need to reconfigure your kernel, eliminating non-existent devices, to allow you to see statistics for even four (or 10) disks. See “Eliminating Non-Existent Devices” in Section 2.5 of the *SPARCserver Manager User Guide* for detailed instructions.

MetaDisk Driver — Not supported on Sun-4c: The MetaDisk Driver is not supported on Sun-4c machines (e.g., SPARCstation 1, SPARCserver 1).

3. Documentation Change: *SPARCserver Manager User Guide*

Please replace pages 73 and 74 in the *SPARCserver Manager User Guide* with the attached replacement sheet. At the bottom of page 73 the name of the file used to designate servers to be monitored was left out in the last two sentences on the page; the file, `.loadadminhosts`, should be created in your home directory.


```
% /usr/ioadm/bin/dmt& (substitute tool location if different)
```

Command Line Options

You can start the IOadmin tools with special SunView characteristics, as described in the *SunView User's Guide*; you can designate the color of the windows, for instance, or the font to be used for text.

In addition, there are three IOadmin options which can be added to the command-line startup (include a space between the option and its argument, if any):

-h [*servername1 servername2 servername3 etc.*]: start the tool with the named servers preselected when the tool comes up; each server will appear in the Server Name pulldown menu.

-m: run the tool in monochrome on a color monitor.

-t seconds: change the default timing interval from 300 seconds to another value. This is the interval for updating dynamic displays for Device Management and File System Management.

Starting All Three Tools at One Time

If you wish to start all three IOadmin tools at one time, insert an alias like the following in your `.cshrc` file (or appropriate file if using a different shell). The following example assumes the IOadmin tools are in the default location, `/usr/ioadm/bin`; substitute the proper paths if you have installed them elsewhere.

```
alias ioadmin '/usr/ioadm/bin/dmt& /usr/ioadm/bin/fsm& /usr/ioadm/bin/pmt&'
```

Then source the `.cshrc` file to activate the alias; type `ioadmin` to start the tools.

```
% source ~/.cshrc
% ioadmin
```

All three tools will start up, with all of the servers in `.ioadminhosts` available in the Server Name menu (see "Specifying Servers to Be Monitored" below for instructions).

Specifying Servers to Be Monitored

To pre-specify which servers you wish to monitor and administer whenever the IOadmin tools are started up, create the file `.ioadminhosts` in your home directory, listing each server on a separate line:


```

brahms
cyber
fanmail
gazooch
gryphon
leach
rinty
taipei
tyler

```

All of the servers listed will be available in the Server Name menu when the tool is started up.

5.5. Including Devices in `ioadmd.conf`

The file `ioadmd.conf`, which should be created in the same directory as the IOadmin daemon, `rpc.ioadmd`, serves three purposes:

- prevents inadvertent tape rewinds and CD-ROM disc ejections
- causes `fsm` to ignore certain devices
- speeds up `fsm`

The procedure is the same, for all three purposes:

1. Include the device name in `ioadmd.conf`
2. Kill the IOadmin daemon (`rpc.ioadmd`) and restart it.

Read all of this section before editing `ioadmd.conf`. Do the following to kill the IOadmin daemon and restart it *after* modifying `ioadmd.conf`:

```

# ps aux | grep rpc.ioadmd
root 3440  0.0  2.3 104 176 ? I 10:41  0:05 rpc.ioadmd
# kill 3440      (Substitute actual process number)
# rpc.ioadmd
#

```

Contents of `ioadmd.conf`

The IOadmin daemon configuration file, `ioadmd.conf`, contains the names, one per line, of the devices which `dmt` and `fsm` will treat in a special way. Entries in the file may be two-character, device name prefixes (`st`, `sd`), partial device names (`st0`, `sd1`, `sd1a`), or full names of no-rewind tape drives (`nrst0`, `nrst1`). See "Preventing Unwanted Side Effects" and "Speeding Up `fsm`" below for specific examples.

Preventing Unwanted Side Effects

Tape drives queried without the no-rewind option and CD-ROMs in audio mode may act inappropriately when queried by `fsm` or `dmt`: a tape in a drive may rewind, and a disc in a CD-ROM may eject. To prevent such occurrences, include the two-character device name for the devices in `ioadmd.conf`. In the following example, SCSI tape drives (`st`) and CD-ROM drives (`sr`) are excluded: